

Attachment 5. Work Plan

The District is presenting this Work Plan to conduct a study of groundwater recharge in the San Joaquin Valley Basin, Eastern San Joaquin Subbasin and Consumes Subbasin, using recycled water, referred to as the Study in this Work Plan. The Work Plan includes background information and a Scope of Work as discussed below.

Background Information

The District serves an area of approximately 155,000 acres in northeastern San Joaquin County (**Figure 1**). In 1948, the District filed for a water right to 50,000 AFY of surface water from the Mokelumne River. However, the State of California (State) denied the District's water right permit and instead approved East Bay Municipal Utility District's (EBMUD) request for an even greater amount, even though EBMUD filed after the District filed. The State's decision resulted in the District identifying the Auburn Dam as a source of future water in which an extension of the Folsom South Canal would be used for conveyance. Neither project was ever constructed. During this time, the State also granted a temporary permit to the District for interim water based on EBMUD's unused entitlements and future demands. Diversions were restricted to the period from December 1 through July 1. An agreement between EBMUD and the District allows the District to store up to 20,000 AF for delivery during the irrigation season. However, this supply is only available about 50% to 60% of the time because it is dependent on whether or not it has been a wet year and whether EBMUD has a water surplus for the year.

Availability of surface water on a predictable basis has been a major impediment to the District's efforts to develop a customer base and rate base to support the operation and maintenance of the surface water diversion and conveyance facilities. Without adequate rates to provide the necessary capital funds, the conveyance infrastructure fell into disrepair and further decreased the amount of surface water utilized. Farmers within the District's service area relied on groundwater to irrigate their fields. The District was only able to supply about 3,000 AFY of surface water annually to select users or customers, and only when the water was available.

The District's original water permit had a deadline to put all 20,000 AFY to beneficial use by 2000. The deadline was later extended to 2010. The District filed a request in 2009 to extend the deadline for putting the water to beneficial use to 2025. Prior to that, the District in 2007 filed an Underground Storage Supplement and a petition to expand the place of use to match current district boundaries and to add additional points of diversion. However, lack of a reliable supply has continued to present the District with problems in developing a District wide funding approach.

Groundwater users in the Eastern San Joaquin subbasin pump about 800,000 acre-ft per year (AFY), which results in an overdraft of the subbasin by approximately 200,000 AFY. Of that overdraft amount, it is estimated that the District pumps approximately 90,000 AFY. The SWRCB has threatened the District with adjudication if the groundwater overdraft issues are not addressed. Adjudication could result in the District being limited to only pumping groundwater at a rate of natural recharge, or 600,000 AFY, which would result in a 25% reduction in pumping rates.

The District is very concerned about protecting its groundwater supply, surface water supply, and \$2 billion agriculture economy. To further protect its water supply and economy, the District has participated in a variety of activities, such as adopting a groundwater management plan in 2004 to address the lowering groundwater levels, groundwater quality, and acquisition of new supplies of surface water. In 2001, the District also joined the newly formed Northeastern San Joaquin County Groundwater Banking Authority (GBA), which is comprised of 10 agencies. The GBA allows agencies to collaborate on regional water supply projects within San Joaquin County. The District is also a member of the Eastern Water Alliance (Alliance), formed in 2003 the District, Stockton East Water District, and Central San Joaquin Water Conservation District to also collaborate on water supply projects in the Eastern San Joaquin Subbasin.

Additional funds were necessary for the District to develop new surface water sources. The District pursued and successfully obtained a federal grant to partially fund the Tracy Lake Groundwater Recharge Project (Tracy Lake Project). The District formed a landowner improvement district to fund the remaining portions of the Tracy Lake Project. When the river water is available, the Tracy Lake Project will enable the District to divert up to 4,000 AFY of Mokelumne River surface water into the South Tracy Lake. The surface water diverted into Tracy Lake would be used for agricultural irrigation and groundwater recharge.

Additional facilities will be necessary to divert the rest of the 20,000 AFY water right available during wet years to meet existing demands and help prevent groundwater overdraft. Distribution facilities may potentially distribute both recycled and diverted water, thereby maximizing the benefit of the facilities. If accepted, recycled water would help recharge the District's groundwater aquifers. Recycled water is typically available throughout the year, and is not dependent on drought or wet conditions. Recycled water could help establish a consistent funding mechanism for District facilities and operations by virtue of its reliability and sustainability, even during drought conditions. This availability would help the District develop more locally funded improvement districts. The proposed Study seeks to address groundwater overdraft in the District by applying recycled water to agricultural irrigation and directly replacing some of the groundwater pumping volume.

The proposed Study has two main objectives:

- Determine the potential for using recycled water to recharge the groundwater basin either through direct or in lieu recharge, and
- Evaluate the willingness and demand from farmers and public to use recycled water for agricultural irrigation and/or groundwater recharge.

Scope of Work

The five tasks described below encompass the District's proposed scope of work for the Study. It is expected that the District will hire a consultant to develop the Study and implement any proposed projects.

Task 1 – Project Management: The Consultant will provide coordination for the following items:

- Work within the Project Team;
- Work between the Project Team and the District;
- Meetings between the District and key stakeholders; and
- Project tracking and reporting.

Meetings: The District will hold a kick-off meeting with the Consultant to identify the key stakeholders and to confirm the proposed work plan and schedule. A variety of one-on-one meetings and informal meetings with farmers will be also be held as outlined in Task 2.1. Two additional formal meetings will be held as outlined in Task 2.2. Monthly meetings will be held to track the Study's progress. The meeting agenda and meeting minutes will be prepared by the Consultant.

A decision log will be maintained by the Consultant and distributed to the District on a monthly basis. The decision log is a tool used to track the Study progress and to assign accountability and responsibility throughout the Study.

The Study schedule and budget will be tracked and updated as the Study progresses. Monthly budget, schedule, and work progress status reports will be prepared and included with every invoice.

Task 2 – Farmer and Public Outreach of Recycled Water for Agricultural Irrigation and Groundwater Recharge: Task 2 includes two tasks related to the public acceptance of recycled water within the District. Public involvement is critical to implementing and funding recycled water infrastructure long-term. Farmers constitute the largest users of groundwater in the District, and therefore, represent the largest user demand for recycled water. Groundwater recharge is also more effective when applied over large acreages, so farmland is particularly suitable for recharge. Recycled water has the potential to provide farmers with a drought tolerant and reliable supply of recycled water for agricultural irrigation that that would subsequently reduce the amount of groundwater pumped from the basin.

Task 2.1 focuses directly on the target recycled water users - the farmers. Task 2.2 focuses on other potential beneficiaries of the use of recycled water who are part of the District - the constituents.

The overall intent for this task is to identify any potential fatal flaws associated with the use of recycled water, both by the potential users of recycled water and by users of groundwater. The task will also evaluate how recycled water can be used in the District for agricultural irrigation and how to make recycled water more attractive to users. Assuming recycled water is feasible, information will be collected from farmers to develop solutions specific to District for the subsequent tasks (Tasks 3, 4, and 5).

Task 2.1 – Farmer Outreach for Recycled Water: This task will identify potential impediments to using recycled water for agricultural irrigation by District farmers, and evaluate the willingness of farmers to use recycled water. It is expected that farmer concerns and acceptance will be evaluated during a series of one-on-one, group, and farmer coordination meetings to determine under what conditions, if any, would make recycled water an attractive resource. During these meetings, the concept of using recycled water for agricultural irrigation will be discussed with

representatives from the potential users of recycled water. It is expected that key issues to be addressed will include:

- Financial viability;
- Cost: initial capital costs, long-term operations and maintenance costs;
- Water quality;
- Water supply reliability and delivery schedules;
- Infrastructure requirements;
- Permitting and applicable regulations, including salt and nutrient management; and
- Market acceptance of crops irrigated with recycled water.

Based on the outcome of the farmer meetings, the District will develop potential solutions to key issues associated with the use of recycled water identified by the farmers.

Task 2.2 – Public Outreach for Recycled Water: Recycled water has the potential to provide both direct and indirect benefits to the District. Potential direct benefits include providing users with a drought-tolerant and reliable supply of recycled water irrigation that that would subsequently reduce the amount of groundwater pumped from the basin. Potential indirect benefits include using recycled water for groundwater recharge.

On behalf of the District, the Consultant will conduct two public meetings and an additional two meetings with specific focus groups or voter subsets to gauge the general interest in funding recycled water projects that indirectly benefit users of the groundwater basin. This task will focus on quantifying various solutions that benefit the long-term value of helping to sustain the groundwater basin underlying the District. Key issues will include developing financial solutions that are economical, equitable and appropriately assign costs to benefits. This will result in a work plan that is feasible to implement, well coordinated with the community, and could potentially result in widespread public acceptance. Major concerns identified in these public meetings will also be used to develop the tenets for future public outreach.

Task 2.3 – Farmer/Public Workshops: The District will hold two public workshops following the completion of Tasks 2.1, 2.2, 3, 4, and 5 to discuss the preliminary findings of the Study. The workshops will be an opportunity for District constituents to provide additional input about the results of the Study and provide potential solutions. These workshops will identify how farmer and public issues were identified during previous meetings and were addressed in the development of the alternatives. The workshops will also discuss the initial estimated cost of the alternatives. If the Study concludes that recycled water is feasible for agricultural irrigation and groundwater recharge, then the next steps in the planning process will be identified and discussed during the workshops.

Task 3 – Identify Recycled Water Sources: This task will evaluate the feasibility of the District being able to obtain recycled water from local sources. It is expected that up to three sources of recycled water will be identified, such as the City of Galt, the City of Lodi and Sacramento Regional County Sanitation District.

This task will briefly summarize the following characteristics of each recycled water source:

- Seasonal and diurnal water supply availability;
- Water quality;
- Preliminary transmission pipeline routing;
- Existing user charges for recycled water; and
- Summarize key source specific rules and regulations for recycled water use

Optional Task: Follow up work may be part of a separate authorization and can include: 1) negotiating the terms of an agreement for one or more of the recycled water sources to wholesale recycled water to the District, 2) obtaining a commitment from one of more of the recycled water sources to provide recycled water to the District, and 3) coordinating technical, permitting, and implementation details with the other parties.

The Consultant will prepare a technical memorandum (TM #1) to summarize the recycled water sources available to the District. TM #1 will be submitted to the District for review and comments in a workshop format. Comments from TM #1 will be incorporated into the Draft Study where it is appropriate.

Deliverable:

- Technical Memorandum (TM #1) – 5 copies

Task 4 – Recycled Water Market Assessment and Distribution System Evaluation: The District will identify the potential market for recycled water use. The market is expected to be defined, in part, based on the availability of recycled water from each source(s), the results of the farmer coordination meetings, the crop type, the available agricultural acreage, discussions with individual farmers, and existing plans for water distribution.

The market assessment will identify:

- Locations of potential recycled water users;
- Recycled water demands from specific users;
- Crop types available to use recycled water; and
- Existing operational storage capacity at specific farms (if known).

All potential users will be catalogued in a database and located on an area map. Recycled water demands will be estimated using meter data (if available), land-use surveys, aerial photographs, or input from interested farmers. In addition, the District would collect well data from the Department of Water Resources and farmers to assess demand and capacity. Tabulated evapotranspiration and precipitation data will be applied to estimate irrigation requirements. Increased recycled water demand and use may potentially result in less groundwater pumping and more groundwater recharge.

The distribution system infrastructure alternatives will be developed in close coordination with existing and planned District systems, the available recycled water sources (Task 3) and the potential farmer interest and demand for recycled water (Task 2.1). Distribution system alignments, pump stations, storage facilities, well integration, and other assorted recycled water infrastructure will be located, sized, modeled, and optimized to deliver recycled water to potential users in the District service area. Distribution system facilities may also be phased to provide more economical and feasible options for system expansion.

Typically, alignments are developed to reach the greatest potential demand while minimizing pipeline lengths and construction difficulties. Economic and technical requirements for individual customers, the presence of other utilities, moratoriums on construction in recently resurfaced streets, physical barriers such as creek crossings, railroad tracks, highways, and freeways are all considered in the development of alignments. Accessibility and inconvenience factors to local residents and businesses will also be considered.

The District would limit the routes of potential alternatives to the public right-of-way. Ideally, access to private property would not be required. Locating the potential alternatives in the public right-a-way minimizes the costs needed to acquire easements and private property, and it provides increased access to the facilities.

The Consultant will prepare a technical memorandum (TM #2) to summarize the market assessment, describe potential distribution system infrastructure, and discuss the feasibility of using recycled water for irrigation and recharge. TM #2 will be submitted to the District for review and comments in a workshop format. Comments from TM #2 will be incorporated into the Draft Study where it is appropriate.

Deliverable:

- Technical Memorandum (TM #2) – 5 copies

Task 5 – Environmental Compliance and Permitting: An environmental constraints analysis will be conducted to assist in selecting an alternative. The goal of the analysis is to identify an alternative that meets the Study's goals, objectives and regulatory agency requirements.

Environmental constraints for the proposed alternatives may include, but not be limited to:

- Maintaining ESA species;
- Maintaining aquatic habitat for resident fisheries or other special-status species;
- Maintaining vegetation communities and wildlife habitats (riparian, wetland, etc.), and
- Maintaining historic and cultural resources.

The consultant will identify all critical environmental factors for the proposed alternatives including the potential impacts from transmission pipeline routing.

A description and map of key environmental constraints will be developed for each alternative. The descriptions and maps will also serve as a basis for the development of the existing conditions section of any future California Environmental Quality Act/National Environmental Policy Act (CEQA/NEPA) document. Existing Geographic Information Systems (GIS) data available will be used to the extent possible. The GIS data may include: land use, vegetation communities, special-status species occurrences, sensitive habitat occurrences, and the location of historic and cultural resources.

The results will include a matrix that identifies key environmental issues, potential impacts to the key environmental issues, potential mitigation measures, and environmental permits that may be required. The matrix will provide the basis for the alternatives analysis in any future CEQA/NEPA document. This task also includes conducting preliminary consultations with regulatory agencies to verify the appropriate permits potentially required for each alternative. This task assumes up to two meetings with the Project Team and two meetings/conference calls with appropriate regulatory agencies to verify potential permit requirements.

The deliverable for Task 5 will be a technical memorandum (TM #3) summarizing key environmental issues, potential mitigation measures, and environmental permits that may be required.

Deliverable:

- Technical Memorandum (TM #3) – 5 copies